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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/765,293

01/27/2004

James A. Zagzebski

1512,023

9187

23598 7590 02/26/2008  
BOYLE FREDRICKSON S.C.  
840 North Plankinton Avenue  
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EXAMINER

SHAHRESTANI, NASIR

ART UNIT

PAPER NUMBER

3737

NOTIFICATION DATE

DELIVERY MODE

02/26/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/765,293	<b>Applicant(s)</b> ZAGZEBSKI ET AL.	
	<b>Examiner</b> NASIR SHAHRESTANI	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This action is responsive to Applicant's communication filed 02/08/2008.

Claims 47 and 48 have been added as new.

Claims 1-48 are pending.

### ***Response to Arguments***

Applicant's arguments filed 2/8/2008 have been fully considered but they are not persuasive. As previously stated in the office action dated 11/19/2007, the prior art of record teach systems that are operable to carry out the mentioned steps of the claimed language, regardless of a specific order and the presently claimed language does not present a specific order of methods.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 5-7, 13-21, 25-27, 31, 33-48,** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. 6,068,597) in view of Burcher et al. (U.S. 2004/0254460 A1).

Lin teaches various methods for identifying tumors using elastographic imaging (col. 1 lines 46-47; col. 2 lines 1-8), in which Doppler resonance response to the vibration of paired audio transducers (element 112) which yields strain displacement (col. 5 lines 30-33) which is a

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measurement related to strain, the transducer is an electronically steered (col. 4 line 42) phased array which therefore is steered to different angles to form a sector scan, the different levels of audio output power (col. 5 line 5) resulting in different levels of vibration compressibility over which echographic samples are taken for a region of interest (embedded tissue element 422), and processor compounds this data from different angles to form a measurement for a voxel (col. 4 lines 44-48), examiner construes pixels gathered for three-dimensional representation to be voxels by definition.

Lin however is directed towards Doppler methods for elastography and does not specifically address wherein the region of interest is substantially at rest for elastography.

Burcher et al. teach methods of ultrasound examination wherein by recording the force and deformation of the tissue, it is possible to obtain absolute values of the Young's Modulus (stress/strain parameters) which takes into account the tissue when substantially at rest (par. 0045).

It would have been obvious to have modified the measurements as carried out Lin and to have included calculation of a Young's Modulus (strain/stress parameters) measurements in order obtain elastographic images.

**Regarding claims 5-7**, Lin also teaches that after allowing a predetermined amount of time for a resonance vibration to stabilize, the sequencer initiates acquisition of a spectral data point (col. 7 lines 35-38).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 8-12, 28-30, 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. 6,068,597) in view of Burcher et al. (U.S. 2004/0254460 A1) and in further view of Ueki et al. (U.S. 6,377,656 B1). Lin in view of Burcher et al. teach all the limitations of claims 1-7 and 21-27 as described but does not specifically teach the varying weighting functions related to an estimate of Poisson's ratio. In the same field of endeavor, Ueki et al. teaches and imaging apparatus and method for manipulating weighting function of normal distribution (col. 14 lines 66-67 and col. 15 lines 1-7). It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the apparatus and method as taught by Lin in view of Burcher et al. and to have incorporated the teachings of Ueki et al. since the weighting function is never restricted to that of normal distribution and manipulation would be advantageous.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NASIR SHAHRESTANI whose telephone number is (571)270-1031. The examiner can normally be reached on Mon.-Thurs: 7:30-5:00, 2nd Friday: 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. S./  
Examiner, Art Unit 3737

/Brian L Casler/  
Supervisory Patent Examiner, Art Unit 3737